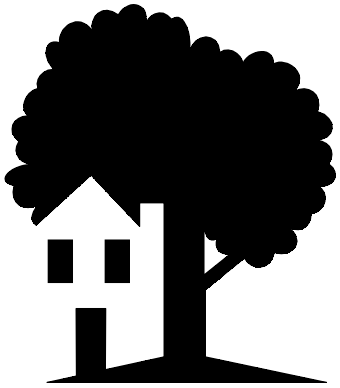
Flood Preparations



If you live in an area that floods periodically, you are probably prepared to face a flood. Even if your property has never flooded, try to learn whether your area is at risk in a floodplain. The possibility of flooding may be affected by upstream development that can change flood levels by a foot or more. Heavy downpours, as in a hurricane, accompanied by clogged drains and storm sewers may cause flash flooding in areas not previously flooded.

Floodplains are generally defined as land susceptible to flooding from any source. Designated flood hazard areas are referred to as "base flood" or "100-year-flood" areas. This does not mean that if your area has flooded, it will not flood again for 100 years—it means that there is a 1% chance that flooding will occur in any year. Over 30 years, the life of most mortgages, there is about a 1 in 4 chance (26%) that the 100-year-base unit of flooding will occur in a given area. These are statistical estimates based on history and do not take man-made or climate changes into account.

Flood Hazard Boundary Maps are updated periodically and are available for you to examine in municipal public works departments. Mortgage lending agencies and banks, real estate firms and licensed property/casualty agents who sell flood insurance generally have copies of Flood Hazard Boundary Maps.

If your property is at risk, be prepared. Even if water does not get into your house, you may be affected by street closures, power outages and curtailment of public services. This document is a guide for protecting your property before a flood. Planning and preparation may help reduce loss of property as well as loss of life.

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Before a Flood Strikes

Buy Flood Insurance

One of the first steps in planning flood protection is to obtain flood insurance. Damages from flood waters, rising surface waters, waves, sewers or drains, and from water seeping from below

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ground are generally not covered under standard homeowners' policies. Until the late 1960s, insuring a home against flood loss was very difficult, if not impossible, because insurance is based on a risk-sharing principle. Naturally, people in areas that are not flood-prone would not want to share the risk with those who were likely to flood. In 1968, Congress created the National Flood Insurance Program (NFIP). Its purpose was to offer flood insurance at a reasonable cost in exchange for the careful management of flood-prone areas by local communities.

Flood insurance is administered by the Federal Insurance Administration, a department of the Federal Emergency Management Agency (FEMA). It can be purchased from any licensed property/casualty agent or broker—the same person who sells homeowner and automobile policies. You can get flood insurance whether you own a home, a business or are renting.

Flood insurance is generally required when buying, building or improving property in an identified flood-prone area if the financing is in any way federally connected—either direct financing from a federal agency (FHA and VA loans, EPA grants, etc.) or a conventional mortgage from a bank or savings and loan that is regulated or insured by the federal government.

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Flood insurance is offered in two phases to communities which qualify by setting up floodplain management and construction standards. Under the first phase, called the emergency phase, property owners can buy up to $35,000 coverage on a single-family dwelling and $10,000 coverage on the contents. Residents in communities in the second phase of the program may buy additional coverage. The rates depend on the degree of risk as determined by the Flood Hazard Boundary Maps and the site of elevation of the building to be insured.

For example, if the base flood level in your area is 30 feet, then the first floor of a structure at an elevation of 33 feet is less likely to suffer severe damage from flooding than one whose first floor is below 30 feet. Rates for insurance vary depending on the structure's elevation and the degree of risk as indicated on the Flood Hazard map. A finished floor elevation certificate is usually needed when applying for the insurance. Normally, there is a five-day wait from the time a policy is purchased until it goes into effect. If there is a transfer of title, coverage starts immediately.

There is a deductible which the policy holder must cover to assume a part of the loss. In addition, the government will pay only a minimal lump sum for jewelry, art objects or any precious metals. In case of a flood, these items should be well-protected.

Flood insurance policies should be kept in a secure place such a safe deposit box, along with a list and photographs or video tapes of personal property that might be damaged if flooding occurs. Keep the name, phone number and location of the insurance agent(s) who wrote your policy at hand. In case of flooding, call this agent or broker immediately. The agent will then submit a form for flood damage or loss to the National Flood Insurance Program. An adjuster will be assigned to inspect your property. After a major flood covering a large area, there could be delays in getting an adjuster and in servicing your claim.

When the adjuster comes, have your insurance policy in hand along with a list of possessions damaged by the flood. If there is a delay in getting an adjuster, you do not need to delay the cleanup. As soon as it is safe to enter the structure, you may begin the cleanup, as long as you keep flood-damaged items available for inspection. Before and after pictures of possessions and receipts will be useful in verifying claims.

Consider Building Modifications

If your existing property is in a floodplain, you may wish to make structural changes to protect it. If you are building a new structure, there are important things you should consider. The first step in either case is to make a thorough study of flood elevation levels and the flood history of your area.

If you cannot avoid building in an area that could flood, consider a home built on pilings so flood waters would flow beneath the structure. Consider a home built on well-compacted fill or one with a ground-level floor which could flood with minimum damage. Homes can be attractive and still meet this need.

If your existing home is found to be in a flood-prone area, there are ways to protect it from flooding in some cases. These methods require modifications in construction that must be done in advance. They can be broken down into two types: permanent and emergency.

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Permanent Protection

Permanent modifications involve changes to the home or the area surrounding the home which prevent flood waters from reaching the interior of the structure. These include:

- Constructing berm walls, subdivision levees, and retaining walls (either attached to the home or out away from the home). With each of these, several options exist in terms of materials and appearance. These are costly alternatives for protection of your home; however, when the cost of restoring a flood-damaged home is considered the cost of these modifications may not seem so great.
- Jacking up the house off its present foundation (a more costly alternative for some houses) and supporting it at a height well above anticipated flood levels. Usually, a house mover is contracted to raise the house, and a second contractor may be involved in building new foundations. The new ground level may be left open or closed in for additional living space. If it is to be closed in, finish materials should be selected which require minimal protection from flooding and are easily cleaned after flooding occurs.

While all of these alternatives are costly, they may serve to raise property values if well done. They will definitely reduce the risk and extent of future flood damage.

Each home and site offers a specific set of problems. Services of experienced, licensed architects or engineers should be secured before making major modifications.

Emergency Protection

Two types of emergency procedures may be used to protect your home from flooding resulting from a hurricane. One procedure involves building a dike (see Section 9.8, Building Dikes to Prevent Minor Surface Flooding). The other emergency procedure involves "wrapping" the home with polyethylene and utilizing a sump pump to remove water that might seep through.

The second procedure requires 4 to 5 hours' work and depends on the structure itself to support the pressures associated with the flood waters. Although structural failure has not been witnessed, there is a possibility of structural damage if the flood water rises more than two feet above the floor.

To be successful, this procedure requires that materials be gathered in advance and that there be enough time before the flood waters reach the home. You will need the help of 4 to 6 people and an expenditure of $500 to $700. Here is the procedure:

① Dig a trench approximately 8 inches deep and 8 to 10 inches wide around the perimeter of the house, right at the base of the structure.
② Place a 2-inch diameter PVC pipe at the bottom of the wall just above the trench. This pipe will carry any water that may leak around the polyethylene back to the sump pump for removal. The pipe should be drilled with ½-inch holes approximately 8 inches on center.
③ Place the polyethylene film, 6 mil thick and 8 feet wide, on the wall to a height of about 4 feet and attach it with duct tape and masonry nails. Drape the rest of the film down into and through the trench.
④ Place loose sand to fill the trench on top of the polyethylene.

"Once you have determined that flooding of your home is likely, start planning."

The polyethylene film, although waterproof, is not very strong. Any open areas around the home must be bridged prior to the wrapping with polyethylene. To do this:

- Use 2x4 and 2x6 lumber and construct beams which allow you to span these open areas.
- Use ½-inch plywood sheets on the outside of the beams before placing the polyethylene over the plywood.

Prepare Emergency Supplies

Once you have determined that flooding of your home is likely, start planning. Preparation and organization can help you through the emergency of a hurricane or a flood at home or in an evacuation shelter with much more comfort than if you try to collect essential supplies at the last minute. It may be too late to make a dash to the grocery, hardware store or the gas station for something you need.

Sit down with the family while you have plenty of time to prepare a list of emergency supplies, and make plans for coping with a flood. You may want to divide your planning into these categories:

- What do you need to do before the flood waters get too high? (See Sections 3.3 and 3.4 for more information about evacuation safety in chapter 3 of this handbook.)

"Think about what supplies you will need when you return home to begin cleanup and restoration."

- How would you get to high ground if the water came up suddenly and your car was useless.
- What is your most likely exit door? Store and maintain an emergency kit near this exit.
- Will you wrap your home? Gather the necessary materials if you decide to take that step.
- What supplies will you need if you try to remain in the flooded home. (See Section 2.5, "Disaster Supplies Kit" in chapter 2 of this handbook.)
- What supplies will you need if you go to an evacuation center or a friend's or relative's home?
- Do you have an emergency kit you can use whether you remain in the flooded home or evacuate? (See Disaster Supplies Kit.)
- To avoid loss of quality due to long-term storage, rotate the supplies in your emergency kit by using them and replacing with fresh items where appropriate. Just remember to keep an adequate supply on hand.
- What supplies will you need when you return home to begin cleanup and restoration?

  - After the flood, your checkbook, credit cards, important papers, insurance company addresses and telephone numbers and property inventory for insurance claims should be handy.
  - Gasoline for pump, generator or boat engines should be stored safely outside home.
  - Household chlorine bleach may be needed to disinfect during or after the flood.
  - A garden sprayer, hoses, brooms and protective gloves will be useful. A wet-vacuum and fans will be helpful after the flood for cleanup when the electricity is restored. Everyone else will be looking for them and they may be hard to find in rental or hardware stores.
  - Duct tape, a roll of polyethylene and lots of plastic garbage bags should be on hand to protect furniture, appliances and clothing from water damage.
  - Heavy duty plastic bags or pallet covers are available in quantities commercially. Large plastic bags may be used to protect a washer or dryer. Smaller trash bags may be used for garbage generated during the flood, as it will be several days before you can get to a dump or sanitation crews can get to your house.
  - Chemical camp toilets, buckets with tight-fitting lids and/or small plastic bags can be used for human and pet waste.

Review your emergency supply inventory regularly. Be certain that your stock reflects your prepared list. Replace items which are stale or have been used. This advance preparation can be worth a lot of comfort during your battle with a flood resulting from a hurricane.

"Be prepared to evacuate if necessary."

A Flood is Predicted

Listen for Flood Warnings

If a flood is predicted, keep a battery-powered radio tuned to a local station, and follow all emergency instructions. For immediate information, you may want to obtain a radio which can be tuned to the local NOAA weather radio channel. (See Section 2.4, "Finding Out Information in an Emergency," in chapter 2 of this handbook.) Pay special attention to weather bulletins; listen for reports of hurricanes, storms and rainfall in nearby or upstream areas.

Gaging stations are used to keep track of water levels in major rivers, streams and bayous. These reports are in terms of elevation above average sea level. There is a fairly close relationship between area flooding and river elevations. This relationship may change as drainage channels become silted or clogged by vegetative growth and with new development in your area. This means that each flood will behave somewhat differently. This is why it is imperative that you remain alert to timely flood status reports and their consequences.

Think Safety First

Human safety is the top priority. Be prepared to evacuate if necessary. If it is safe to evacuate by car, avoid roads which are under water, since parts of the road may already be washed out.

If your car stalls in a flooded area, abandon it as quickly as possible. Flood waters can rise rapidly and sweep a car (and its occupants) away. Try to avoid walking in flood waters more than knee deep. Seek higher ground or, if caught in a house, move to a second floor, attic or rooftop. Wait for help.

If Time Permits, Protect Your Possessions

If time permits, there are last minute precautions that can be taken to reduce flood and hurricane damage to personal property:

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- Remove pictures, mirrors, paintings and decorations from walls. Water in the house may cause the wallboard to soften. Nails and hanging devices can loosen and slip out, causing wall-hung items to drop to the wet floor. Art objects will not likely be covered at full value by your flood insurance.
- Empty fireplace ashes. If water gets into the fireplace, ashes may be carried throughout the house.
- Remove food items from lower cabinets, such as dog food and other perishables, which may spoil and float inside the house, causing a foul odor. Even if not soaked, cardboard containers will absorb moisture from the humidity in the house.
- Remove doors and drawers from lower cabinets and doorways. They are easily warped by water and damaged by water pressure. Lay large doors on sawhorses or cement blocks and use them for stacking small items out of reach of flood water.
- Lift curtains and draperies up and tie lower sections to upper sections with twine. If possible, remove curtains and draperies out of any room that will flood. They will likely mildew even if not wet because of excess moisture in the room.
- Take clothing and shoes from closets and drawers, enough for several wearings. Items will likely mildew if not wet.
- Encase appliances, table legs and other heavy items that will not float in large plastic bags and tape securely, or raise furniture and appliances on sawhorses, cement blocks or other props. Use for props only barrels that have holes drilled in them; otherwise they will float and overturn items.
- Remove possessions to dry location.
- As a last resort, stack more valuable furniture and other items on less valuable pieces.
- Bring outdoor possessions inside the house or tie them down securely—lawn furniture, lawn mowers and power tools, garbage cans, tools, signs, container plants and other moveable objects that might be swept away or hurled about.
- Remove carpets and rugs if time permits.
- Block main sewage outlet from house to avoid sewage back-up.
- Drive or tow out all vehicles or trailers.
- Raise all chemical concentrates (such as lye, pesticides, etc.) to avoid further contamination of flood water.
- Shut off all gas and electric service before leaving residence.